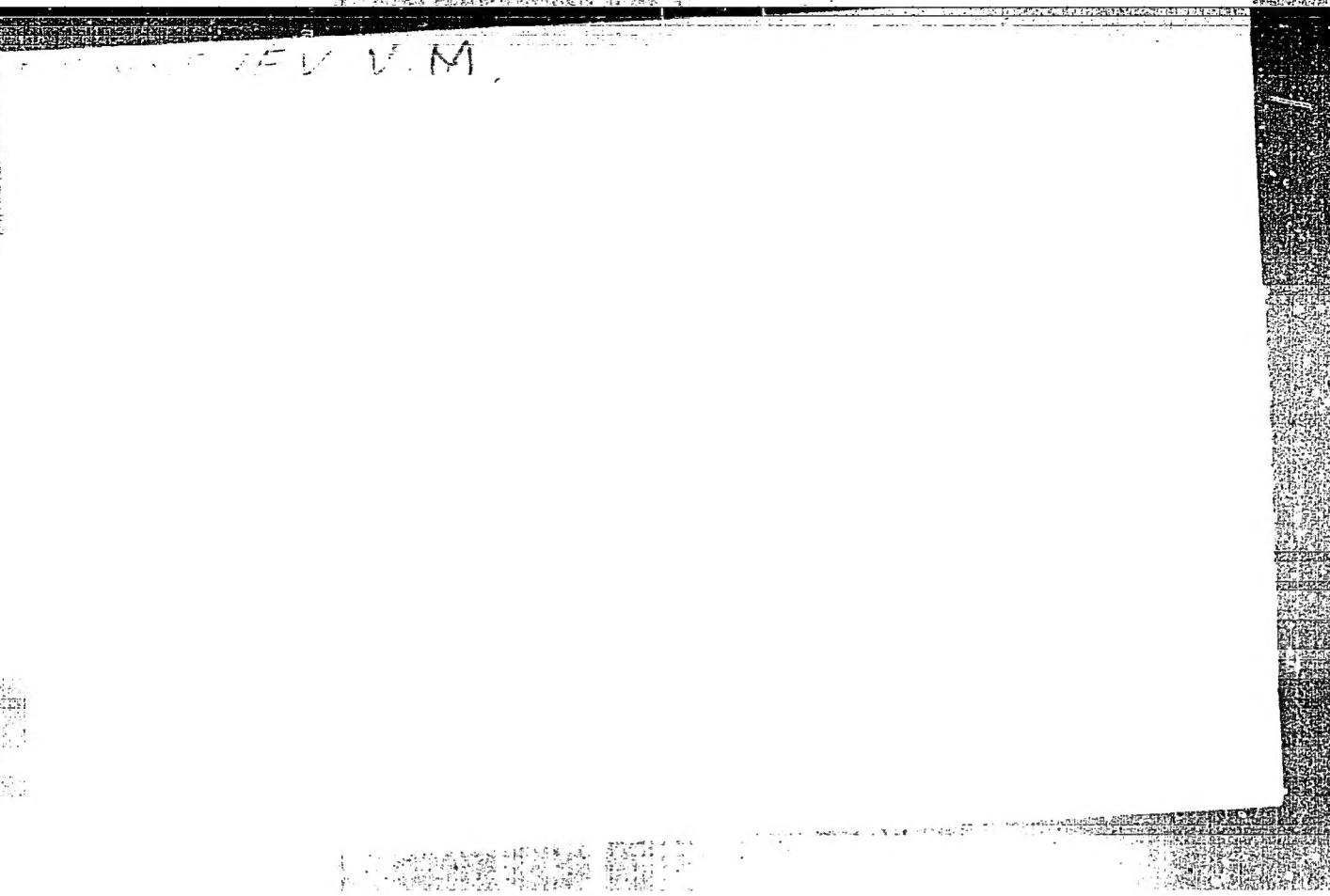


"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041272



APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041272

SILAYEV, A.B.; NESMEYANOV, An.N.; FEDOSEYEV, V.M.; KONDAKOVA, N.V.

Synthesis of  $\alpha, \beta$  -dimercaptopropionic acid, containing  
radioactive sulphur. Zhur. ob. khim. 27 no.10:2871-2873 O '57.  
(MIRA 11:4)

1. Moskovskiy gosudarstvennyy universitet.  
(Propionic acid) (Tracers (Biology))

Fedoseyev U. N.

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041272C

5(3)

SOV/79-29-5-63/75

AUTHORS:

Fedoseyev, V. M., Kovalenko, S. P., Silayev, A. B.,  
Nesmeyanov, An. N.

TITLE:

S-Derivatives of Thiourea (S-proizvodnyye tiomocheviny).  
1. Synthesis of N-Acetyl- and N,N-Diethyl-2,3-diisothiuronium  
Propyl Amine (1. Sintez N-asetil- i N,N-dietil-2,3-diizo-  
tiuroniypropilamina)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1703-1707  
(USSR)

ABSTRACT:

Two new S-derivatives of thiourea were produced: dibromide of bromine hydrate of N,N-diethyl-2,3-diisothiuronium propyl amine and dibromide of N-acetyl-2,3-diisothiuronium propyl amine. The course of the synthesis and the values of the elementary analysis are given. The synthesis was controlled by paper chromatography; furthermore, it was repeated with marked atoms ( $S^{35}$ ). The reaction between 2,3-dibromopropyl amine and thiourea in butanol solution at 80° does not lead to the formation of dibromide of the bromine hydrate of 2,3-diisothiuronium propyl amine. Bromide of the bromine hydrate of 2-amino-5-isothiuronium methyl thiazoline is probably formed in this connection. There are 1 table and

Card 1/2

S-Derivatives of Thiourea. 1. Synthesis of N-Acetyl- and N,N-Diethyl-2,3-diisothiuronium Propyl Amine

SOV/79-29-5-63/75

11 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet  
(Moscow State University)

SUBMITTED: February 6, 1958

Card 2/2

S/153/60/003/003/024/036/XX  
R016/B058

AUTHORS: Fedoseyev, V. M., Ivanenkov, V. V., Bochkarev, V. N.

TITLE: Using the Method of Paper Radiochromatography for  
Studying the Reciprocal Action of Some Organic Bromides  
With Thicurea

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i  
khimicheskaya tekhnologiya, 1960, Vol. 3, No. 3,  
pp. 484 - 488

TEXT: The authors report on the use of paper radiochromatography for  
studying the reaction of thicurea with 2,3-dibromo propyl amine (DBPA)  
and its N-derivatives. As previously proved by them (Ref.5), correspond-  
ing diisothiourea derivatives (I) form in this case. Such a compound is,  
of course, unstable as a free amine and is completely transformed into  
2-imino-5-isothioureamethyl-thiazole. It further turned out that ring  
formation is not prevented by the substitution of a hydrogen atom in  
the amino group of DBPA. Corresponding 2-imino-3-alkyl-5-isothiourea-  
methyl-thiazoles (II) were formed there as reaction products. Even at

Card 1/5

Using the Method of Paper Radiochromatography for Studying the Reciprocal Action of Some Organic Bromides With Thiourea

8/53/60/003/003/024/036/XX  
B016/B058

a long lasting reciprocal action with a great excess of thiourea, dibromo-propyl-phthalimide produces a reaction product, in which only one bromine atom is substituted by the isothiourea group: 2-bromo-3-iso-thiourea-propyl-phthalimide (III). By using thiourea, tagged at the sulfur, in the radiochromatographic analysis, the authors succeeded in determining the following details: 1) The degree at which thiourea enters into the reaction. As may be seen from Fig.2, thiourea reacts most strongly with N,N-diethyl-dibromo-propyl amine, the reaction setting in immediately after mixing the reagents. The reaction with dibromo-propyl-phthalimide proceeds much more slowly. 2) The proof of the dependence of the reaction rate on the structure of the amine used. From experiments with N-ethyl-, N-propyl-, N-butyl-, and not substituted DBPA (Fig.3), the authors conclude that the reaction rate rapidly increases with the rising number of the carbon atoms in the alkyl radical up to three. The reaction rate drops at a further extension of the carbon chain. The authors are not yet able to interpret this phenomenon. 3) The determination of the temperature of the reaction medium. The influence of the temperature on the reaction rate was proved with the

Card 2/5

Using the Method of Paper Radiochromatography for Studying the Reciprocal Action of Some Organic Bromides With Thiourea

S/153/60/003/003/024/036/xx  
BC16/B058

example of N-propyl-dibromo-propyl-amine in methyl-, ethyl-, isobutyl-, and isoamyl-alcohol. 2-imino-3-propyl-5-isothiourea-methyl-thiazole formed in all cases, but with different rate. The authors conclude from Fig.4 that thiourea was completely reacted in isoamyl-alcohol within 30 min, while this was achieved in isobutyl-alcohol only after 2 hrs. The course of reaction in methyl- and ethyl-alcohol is practically the same, but much slower than in the former two alcohols. Fig.1 shows the distribution of activity between thiourea and the reaction product in isobutyl-alcohol. Curve A illustrates the measurements by means of the instrument of the type 6 (B), while curve B was automatically recorded by the instrument "Бамбук" (Bambuk) on the diagram strip of the self-recording potentiometer "KB" (KV). The authors recommend the radiochromatographic analysis for studying the kinetics of organic reactions, for identification and quantitative determination of products of neutron irradiation as well as for investigating the reaction of isotope exchange of organic and inorganic compounds. This paper was presented at the First Inter-University Conference on Radiochemistry, held in Moscow from April 20 to 25, 1958. There are 4 figures and 5 references:

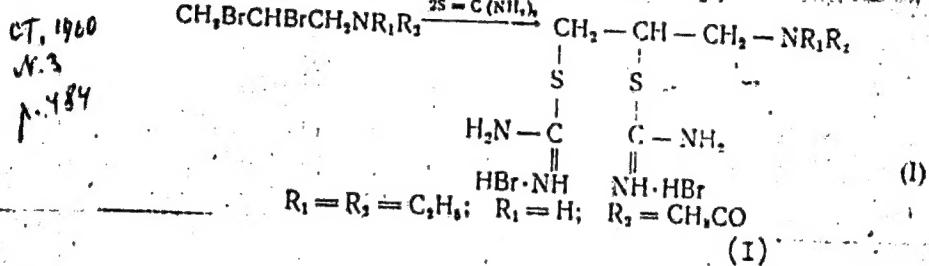
Card 3/5

Using the Method of Paper Radiochromatography for Studying the Reciprocal Action of Some Organic Bromides With Thiourea.

S/153/60/003/003/024/036/XX  
B016/B058

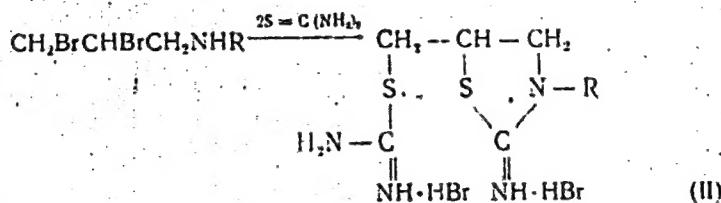
1 Soviet, 1 US, 1 British, and 1 French.

ASSOCIATION: Moskovskiy gosudarstvenny universitet im. M.V. Lomonosova; Kafedra radiokhimii (Moscow State University imeni M. V. Lomonosov; Chair of Radiochemistry)

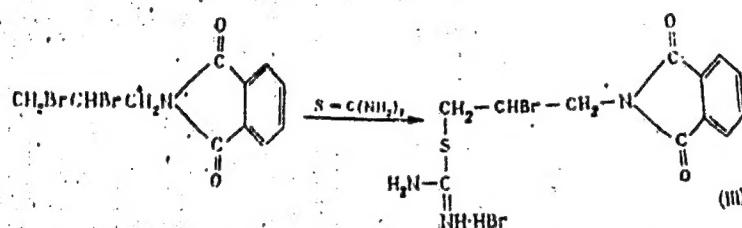


Card 4/5

S/153/60/003/C03/024/036/xx  
B016/B058



R=H, C<sub>2</sub>H<sub>5</sub>, C<sub>3</sub>H<sub>7</sub>, *n*-C<sub>4</sub>H<sub>9</sub>, *t*-C<sub>4</sub>H<sub>9</sub>, *n*-C<sub>5</sub>H<sub>11</sub>, *t*-C<sub>5</sub>H<sub>11</sub>



Card 5/5

SHIROKOV, Yu.G.; FEDOSEYEV, V.M. (Moskva)

Some problems concerning the distribution and excretion of  
trichlor-benzenethiol. Gig. truda i prof. zab. 4 no.12:31-35  
D '60. (MIRA 15:3)

1. Institut gigiyany truda i professional'nykh zabolеваний  
AMN SSSR i Moskovskiy gosudarstvennyy universitet.  
(BENZENETHIOL--TOXICOLOGY)

SHAPIRO, N.I.; TOLKACHEVA, Ia.N.; SPASSKAYA, I.G.; FEDOSEYEV, V.M.

Experimental study on the possibility of utilizing protective substances in radiotherapy of malignant tumors. Vop.onk. 6 no.1:71-79 '60. (MIRA 13:10)  
(CANCER) (THIOUREA) (X RAYS—THERAPEUTIC USE)

FEDOSEYEV, V.M.; BOCHKAREV, V.N.; SILAYEV, A.B.

S-Derivatives of thiourea. Part 3: Reaction of thiourea with  
N-(2,3-dibromopropyl) phthalimide. Zhur. ob. khim. 30 no.11;  
3795-3798 N°60. (MIRA 13:11)

1. Moskovskiy gosudarstvenny universitet.  
(Urea) (Phthalimide)

SHASHKOV, V.S.; FEDOSEYEV, V.M.

Antiradiation activity of new isothiuronium derivatives. Med.  
rad. no. 7:25-29 '61. (MIRA 15:1)  
(RADIATION PROTECTION) (ISOTHIURONIUM COMPOUNDS)

SITAYEV, A.B.; FEDOSEYEV, V.M.; VASILEVSKIY, V.L.

Reactions of thiourea with N-( $\alpha$ -bromoacetyl)-amino acids. Part 1:  
Reactions of thiourea with N-( $\alpha$ -bromobutyryl)-glycine in ethyl  
alcohol. Zhur. ob. khim. 30 no.10:3464-3468 0 '61. (MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet.  
(Urea) (Glycine)

FEDOSEYEV, V.M.; IVANENKOV, V.V.; SILAYEV, A.B.

S-derivatives of thiourea. Part 2: Synthesis of 2-imino-3-alkyl-5-  
isothiuroniummethylthiazolidines. Zhur. ob. khim. 30 no.10:3468-  
3472 O '61.  
(MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet.  
(Isothiuronium compounds) (Thiazolidine)

FEDOSEYEV, V.M.; BOCHKAREV, V.N.; SILAYEV, A.B.

Derivatives of thiourea. Part 4: Preparation of 2-bromo-3-  
isothiuronium propylamine and study of some of its transformations.  
Zhur. ob. khim. 31 no.12:3929-3933 D '61. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Pseudourea)

FEDOSEYEV, V.M.; ZAVADA, M.; SILAYEV, A.B.

8 derivatives of thiourea. Part 5: Reaction of thiourea  
with  $\alpha$ -dibromopropionic acid. Zhur. ob. khim. 32  
no.10:3425-3432 0 '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni  
M.V. Lomonosova.

(Urea)  
(Propionic acid)

VASILEVSKIY, V.L.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Interaction of thiourea with N-( $\alpha$ -bromoacetyl)-amino acids. Part 2:  
Reaction of thiourea with N-( $\alpha$ -bromobuturyl)-glycine in dimethyl-  
formamide. Zhur.ob.khim. 32 no.7:2269-2273 Jl '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Urea) (Glycine)

FEDOSEYEV, V.M.; SIMONOV, Ye.F.; SILAYEV, A.B.

Synthesis of 2,3-dimercaptopropanol ethers. Zhur. ob. khim. 32  
no.9:3083-3088 S '62. (MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Propanol) (Ethers)

FEDOSEYEV, V.M.; SULIMA, A.V.; SILAYEV, A.B.

8 derivatives of thiourea. Part 6: 2,3-Di(isothiuronium  
bromide)-propanol and its ethers. Zhur. ob. khim.  
32 no.10:3432-3439 0 '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni  
M.V. Lomonosova.

(Pseudourea) (Propanol)

FEDOSEYEV, V.M.; IVANENKOV, V.V.; SILAYEV, A.B.

S-derivatives of thiourea. Part 7: Reaction of thiourea  
with N-isopropyl-2,3-dibromopropylamine. Zhur. ob. khim.  
33 no.3:1026-1031 Mr '63. (MIRA 16:3)

1. Moskovskiy gosudarstvennyy universitet imeni  
M.V. Lomonosova.

(Urea)  
(Propylamine)

VASILEVSKIY, V.L.; SVERDLOV, Ye.D.; FEDOSEYEV, V.M.; SILAEV, A.B.

Interaction of thiourea with  $\alpha$  -bromobutyric acid. Part 1:  
Effect of solvents on the reaction rate. Zhur.ob.khim. 33 no.7;  
2397-2401 Jl '63. (MIRA 16:8)

1. Moskovskiy gosudarstvennyy universitet.  
(Urea) (Solvents) (Butyric acid)

SVERDLOV, Ye.D.; VASILEVSKIY, V.L.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Reaction of thiourea with  $\alpha$ -bromobutyric acid. Part 2:  
Characteristics of the reaction taking place at low concentrations of initial substances. Zhur. ob. khim. 33 no.10:  
3373-3378 O '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyj universitet imeni M.V. Lomonosova.

FEDOSEYEV, V.M.; TARASENKO, A.G.; MRAZEK, L.; SILAYEV, A.B.

Synthesis of 2,3-dimeroaptopropylamine and its N-mono- and  
N,N'-dialkyl derivatives. Dokl.AN SSSR 148 no.4:871-874  
F '63. (MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavлено академиком A.N. Nagmeyanovym.  
(Propylamine)

ACCESSION NR: AP4027969

S/0205/64/004/002/0216/0220

AUTHOR: Konstantinova, M. M.; Tarasenko, A. G.; Fedoseyev, V. M.

TITLE: Investigation of the antiradiation activity of N-alkyl derivatives of 2,3-dimercaptopropylamine and their action mechanism

SOURCE: Radiobiologiya, v. 4, no. 2, 1964, 216-220

TOPIC TAGS: radioprotective action mechanism, dithiol group, N-alkyl derivative, 2,3-dimercaptopropylamine, synthetic N-alkyl derivative, oxygen intensity, tissue hypoxia, dithiol radioprotective action, mercapto, gamma radiation, lethal dose, radiation sickness, increased radioresistance

ABSTRACT: This study investigates the N-alkyl derivatives of 2,3-dimercaptopropylamine, there being little data in the literature on the radioprotective action of substances containing sulfur, especially the dithiol groups. These derivatives, synthesized for the first time by the authors, were studied in relation to their effect on oxygen intensity in the tissues. Experimental white mice were gamma-irradiated (Co<sub>60</sub>, 270-280 r/min) with single 900-r doses

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ACCESSION NR: AP4027969

(LD 100/15). The following preparations were administered to the animals 15, 30, 60, or 90 min before irradiation: 2,3-dimercaptopropylamine and N-ethyl-, N-propyl-, N-butyl-, N,N-diethyl-, N,N-dipropyl-, and N,N-dibutyl-2,3-dimercaptopropylamine. Survival rates and average lifetimes of animals were determined for the 30-day period following irradiation. Oxygen intensity in spleen tissues was measured by a polarographic method. Findings show that all the investigated dithiols are radioprotective and increase animal survival in some cases by as much as 60-80%. Preparations are found to be most effective when administered 60 min before irradiation, with some exceptions. The radioprotective action mechanism of this dithiol group is related to tissue hypoxia. However, the correlation between increased radioresistance and decreased oxygen intensity in spleen tissues is less markedly expressed than in the case of biological amines. The radioprotective action of dithiols appears to be based on some other mechanism in addition to hypoxic effect. "The authors express their gratitude to I. V. Nekrasova and O. M. Sokolova for assistance in carrying out the experimental study." Orig. art. has: 2 tables, 2 figures.

ASSOCIATION: Institute morfologii zhivotnykh im. A. N. Severtsova, AN SSR, Moscow  
Card 2/3 (Institute of Animal Morphology AN SSSR); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University).

FEDOSEYEV, V.M.; LITVINOV, L.N.

S-derivatives of thiourea. Part 8: Synthesis of 2-hydroxy-5-isothiouroniummethylthiazoline. Zhur. ob. khim. 34 no. 2:557-560 F '64.

(MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

TARASENKO, A.G.; FEDOSEYEV, V.M.; SILAYEV, A.B.

2,3-Dimercaptopropylamine and its derivatives. Part 1: Synthesis  
of N-mono- and N,N-dialkyl derivatives of 2,3-dimercaptopropylamine.  
Zhur. ob. khim. 34 no. 3:100-104 Mr '64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

FEDOSEYEV, V.M.; YEVDOKIMOV, Yu.M.

S-derivatives of thiourea. Part 9: Synthesis of 2-alkyl(aryl)-  
-and 2-dialkylamino-5-(isothiuronium bromide)-methyl- $\Delta^2$   
thiazoline hydrobromides. Zhur. ob. khim. 34 no. 5:1551-1556  
My '64. (MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

FEDOSEYEV, V.M.; FILIPPOVICH, I.V.

S-derivatives of thiourea. Part 10: Preparation of  
2-amino-5-bromo- $\Delta$ -dihydro-1,3-thiazine. Zhur. ob.khim. 34  
no. 5:1556-1561 My '64.

S-derivatives of thiourea. Part 11: Product of the reaction  
of 2,3-dibromopropylamine hydrobromides with potassium  
thiocyanate. Ibid.:1561-1565  
(MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet.

SHASHKOV, V.S.; SAKSONOV, P.P.; ANTIPOV, V.V.; MOROZOV, V.S.; MURIN, G.F.;  
RAZGOVOROV, B.L.; SUVOROV, N.N.; FEDOSEYEV, V.M.

Efficiency of a pharmacochemical protection against gamma irradiation  
and irradiation by protons with an energy 660 and 120 Mev. Kosm. issl.  
2 no. 4; 641-647 Jl-Ag '64. (MIRA 17:9)

KONSTANTINOVA, M.M.; TARASENKO, A.G.; FEDOSEYEV, V.M.

Study of the radioprotective activity of N-alkyl derivatives of  
2,3-dimercaptopropylamine and the mechanism of their action.  
Radiobiologija 4 no.2:216-220 '64. (MIRA 18:3)

1. Institut morfologii zhivotnykh imeni Severtsova AN SSSR, Moskva  
i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

SHASHKOV, V.S.; FEDOSEYEV, V.M.; BURKOVSKAYA, T.Ye.; SAKSONOV, P.P.; ANTIPOV, V.V.;  
YEVDOKIMOV, Yu.N.

Study of the radioprotective activity of some newly synthesized  
thiazoline derivatives. Radiobiologiya 4 no.6:927 '64. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova,  
khimicheskiy fakul'tet.

ZUBOVA, O.V.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Study of the antitumor activity of some derivatives of 2,3-di(isothiuronium)-propanol and 2-imino-5-(isothiuronium)-methylthiazolidine. Vop. onk. 10 no.1:26-28 '64.

(MIRA 17:11)

1. Iz laboratorii antibiotikov biologo-pochvennogo fakul'teta (zav. - dotsent A.B. Silayev) i kafedry radiokhimii khimicheskogo fakul'teta (zav. - prof. A.N. Nesmeyanov) Moskovskogo gosudarstvennogo universiteta. Adres avtorov: Moskva, Moskovskiy universitet, Leninskiye gory, laboratoriya antibiotikov biologo-pochvennogo fakul'teta.

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"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041272

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041272C

VASILEVSKIY, V.L.; LEBEDEVA, T.A.; FEDOSEYEV, V.M.; SILAYEV, A.B.

Reaction of thiourea with  $\beta$ -halopropionic acids. Zhur.  
ob. khim. 35 no.3:479-481 Mr '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet.

YARMONENKO, S.P.; KONOPLYANNIKOV, A.G.; SUYOKOV, N.N.; FEDOSEYEV, V.M.

Effect of protectors in irradiation with sublethal doses. Dokl. AN SSSR 162 no.1:205-207 (My '65). (MIRA 18:5)

1. Institut gigiyeny truda i professional'nykh zabolеваний AMN SSSR; Moskovskiy gosudarstvennyy universitet i Vsesoyuznyy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze. Submitted January 21, 1965.

SHASHKOV, V.S.; FEDOSEYEV, V.M.; BURKOVSKAYA, T.Ye.; SAKSOV, P.P.;  
ANTIFOV, V.V.; YEVDOKIMOV, Yu.N.

Tests of newly synthesized thiazoline derivatives for radiation-  
protective activity. Farm. i toks. 28 no.6:737-738 N-D '65.  
(MIRA 19:1)

ACC NR: AP6031590

SOURCE CODE: UR/0189/66/000/003/0075/0078

AUTHOR: Tarasenko, A. G.; Fedoseyev, V. M.

ORG: Organic Chemistry Department (Kafedra organicheskoy khimii)

TITLE: Determination of the ionization constants of 1,2-dimercaptopropionic acid

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 75-78

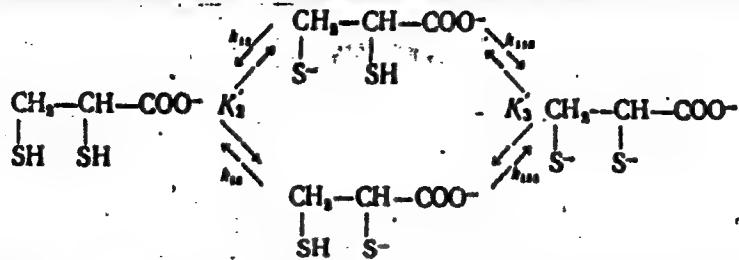
TOPIC TAGS: dissociation constant, organic sulfur compound

ABSTRACT: Among polyfunctional thiol-containing compounds, of great interest are vicinal thiols, which protect the animal body from ionizing radiation. One such compound is 1,2-dimercaptopropionic acid (DMPA). Since the activity of most SH-containing enzymes of the organism strongly depends on the degree of ionization of the thiol groups, an attempt was made to study the state in which DMPA exists under conditions prevailing in the body, i. e., at the physiological pH. The individual constants of DMPA were evaluated with the aid of a potentiometric titration of 1- and 2-mercaptopropionic acids. The values  $pK'_{11} = 3.75 \pm 0.05$ ,  $pK'_{21} = 10.60 \pm 0.02$  (1-mercaptopropionic acid) and  $pK'_{12} = 4.47 \pm 0.05$  and  $pK'_{22} = 10.31 \pm 0.03$  (2-mercaptopropionic acid) were obtained. Assuming the following ionization scheme for DMPA,

Card 1/2

UDC: 547.2/9

ACC NR: AP6031590



and considering the influence of the thiol groups in IMPA, the individual ionization constants of the latter were calculated:  $pK_{13} = 9.78$ ,  $pK_{12} = 9.65$ ,  $pK_{132} = 10.31$  and  $pK_{123} = 11.44$ . Orig. art. has: 3 figures, 1 table and 5 formulas.

SUB CODE: 07/ SUBM DATE: 20JUL65/ ORIG REF: 003/ OTH REF: 009

Card 2/2

EWG/11/EWT(m)

APR 01 1950

AMERICAN PHYSIOLOGICAL SOCIETY

Journal of the American Physiological Society

radioprotective agents, radiation protection

The authors' experiments seem to refute the view that the radioprotective agents are of little or no value when low doses of radiation are used. In the case of gamma-ray protection the agents' effectiveness is proportional to the dose of radiation in other experimental animals. Their experiments also show that the effectiveness of the agents is proportional to the radioprotective dose.

Card 1/2

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ACCESSION NR: AP5013450

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in irradiated animals, regardless of the irradiation dose used, that 30% of the total cell population in

TARASENKO, A.G.; FEDOSEYEV, V.M.; SILAYEV,

2,3-Dimercaptopropylamine and its derivatives. Part 2:  
Synthesis of N-N-dialkyl-2,3-di(alkylthio)propylamines.  
Zhur. ob. khim. 34 no.7:2366-2369 Jl '64 (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

*FEDOSEYEV V. O.*

Ukrayins'kyi fizichnyi zhurnal, v. 8, no. 4, Apr 1963, 498-500.  
S/185/63/003/004/015/015

15

A scientific conference devoted to problems of evaporation, combustion, and gas dynamics of dispersed systems was held at Odessa State University imeni I. I. Mechnikov from 1 to 6 October 1962.

Sixty-five papers were presented, 24 of which dealt with the theory and practice of production and stability of aerosols and the effect on these processes of various physicochemical factors: the ~~other~~ working processes in combustion chambers of various power plants. Some of the titles were "Investigating oxidation processes of high hydrogenous fuels by oxygen from compressed air," S. S. Kramarenko; "Burning of metal suspension in hydrocarbon fuels," D. I. Polishchuk, L. P. Latonina, and V. L. Yankevich; and "Experimental investigation of two-phase flow in axially-symmetrical nozzles," G. A. Komov. Included also were discussions of the methods of solving equations of dissociating gas flow in ducts and gas dynamic calculations for jet engines, G. A. Varshavskiy, E. Ya. Guber, and A. P. Kisel'ov; the formation of plane shock waves in shock tubes and passage of shock waves through a flame front, D. V. Fedoseyev, G. D. Sadamandr, and I. K. Sevast'yanova; experimental results on the flow of combustion products of a methane-oxygen mixture around cambered surfaces with diffraction of detonation waves, L. G. Gvozd'ova; the stability of a steady-state flame front S. K. Aslanov; the relationship between the flame and the diameter of a burning drop, V. O. Fedoseyev; and theoretical and experimental investigation of burning of spherical metal particles, by L. A. Klyachko.

[AS]

Card 2/2

KRIKUNCHIK, A.B., inzh.; FEDOSEYEV, V.P., inzh.

Concerning the article "Networks for the auxiliary power supply of the self-needs of large condensing electric power plants." Elek. sta. 34 no. 7:87-90 Ju '63. (MIRA 16:8)

FEDOSYEV, V.S.

"Sanitary Improvement on Bird Farms, Unproductive Because of Tuberculosis." Cand Vet Sci, Kazan' Veterinary Inst, Kazan', 1954. (RZhBiol. No 8, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

FEDOSEYEV, V.S.

Eliminating tuberculosis among chickens on poultry farms. Veterinariia  
33 no.9:26-30 8 '56. (MLRA 9:10)

1.Detsent Kazanskogo veterinarnego instituta imeni N.E. Baumana.  
(Tuberculosis in poultry)

USSR/Microbiology - Microbes Pathogenic in Man and Animals.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67379

Author : Fedoseyev, V.S.

Inst : Kazan' Veterinary Institute.

Title : On the Problem of Intracutaneous Tuberculinization of Poultry.

Orig Pub : Uch. zap. Kazansk. vct. in-ta, 1957, 65, 181-187.

Abstract : No abstract.

F.

Card 1/1

USSR/General Problems of Pathology. Allergy

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65936

U-2

Author : Abdullin Kh.Kh., Fedoseyev V.S.

Inst : Kazan Veterinary Institute

Title : Concerning the Effect of Repeated Intradermal Administration of Tuberculin on the Allergenic State in Tuberculous Hens

Orig Pub : Uch. zap. Kazansk. vct. in-ta, 1957, 65, 189-193

Abstract : No abstract

Card : 1/1

POLYAKOV, G.V.; TELESHEV, A.Ye.; FEDOSEYEV, V.S.; CHUVAKIN, V.S.

Methods for extracting micas from fine-grained rocks and small fractions for absolute age determinations. Geol.i geofiz. no.7: 99-101 '61. (MIRA 14:9)

1. Institut geologii i geofiziki Sibirsckogo otdeleniya AN SSSR i Tomskiy politekhnicheskiy institut.  
(Geological time)

Moscow. Universitet Vestnik. Seriya 1. Matematika mehanika. no. 1.

TOPIC TAGS: **incompressible flow theory, viscous fluid flow**

ABSTRACT: **Longitudinal flow of an incompressible fluid in a circular pipe of infinite length and having an infinitely long rod on its axis is studied. Velocity**

**of the fluid is constant. The effect of friction on the axial rod is taken into account. The equations in**  
**the pipe changes in the presence of the rod are solved by the method of successive approximations. The**  
**velocity profile of the pipe is determined. The effect of the axial rod on the flow**  
**is determined. The effect of the axial rod on the flow is determined.**

UDC: 672

1-55120-05

ACCESSION NR: AP5009262

of the flow equation under conditions of periodic movement of the axial rod along  
the axis of the pressure gradient. Only one card is issued.

ASSOCIATION: Kafedra aeromekhaniki i gazovoy dinamiki (Department of aeromechanics  
and gas dynamics)

SUBMITTED: 06Mar64

ENCL: 00

SUB CODE: 1

NO. REF. Sov: 002

OTHER: 004

Card 2/2

~~FEDOSEYEV, Ya.~~

An outstanding shift. Mast.ugl. 2 no.10:16 0 '53.

(MIRA 6:10)  
(Coal mines and mining)

YEDOSEYEV, Ye., inzhener

One shift longwall coal mining with double-unit development face.  
Mast.ugl.4 no.7:12-13 J1'55. (MLRA 8:10)  
(Coal mines and mining)

PEDOSEYEV, Ye., inzhener.

Four spindle boring machine. Mast. ugl. 4 no.10:20 " 0 '55.  
(Boring machinery) (MLRA 9:1)

FEDOSEYEV, Ye.

Useful invention. Mast.ugl. 8 no.6:10 Je '59.  
(MIRA 12:10)  
(Coal mines and mining--Equipment and supplies)

FEDOSEYEV, Ye. N., inzh.; OSIPOV, G. L., kand. tekhn. nauk

Soundproofing materials and elements, Stroi. mat. 11 no. 10:28-30  
0 '65. (MIRA 18:10)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041272

~~FEDOSEYEV, P.~~

~~FEDOSEYEV, P.A.; FEDOSEYEV, Ye.P.~~

New transit curves. Avt.dor.20 no.1:22-24 Ja '57. (MILRA 10:3)  
(Curves in engineering)

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041272

L 52011-65 ERT(1) Pg-4 - IJP(c)  
ACCESSION NM: AP5012058

UR/0057/65/135/005/0014/0826

AUTHOR: Kalov, A.F.; Suzdalov, V.A.; Fedoseyev, Ye.P.

30  
B

TITLE: Nonlinear investigation of spatial focusing in magnetic focusing prisms  
with inverse radius fields

21

SOURCE: Zhurnal tehnicheskoy fiziki, v. 35, no. 5, 1960, 914-926

TOPIC INDEX: electron optics, mass spectrograph, magnetic prism, magnetic field,  
magnetic separation

ABSTRACT: This paper gives a detailed discussion of the electron optics of a magnetic prism consisting of a sector (bounded by circular arcs passing through the symmetry axis) of an axially symmetric magnetic field, the strength of which, in the region of focusing, is inversely proportional to the distance from the axis. Such a magnetic prism was proposed by K.T.Bainbridge, R.Bender, and L.Lavatelli (K.Siegbahn, Beta- and Gamma-Ray Spectroscopy, p. 74, N.Y./Amsterdam, 1953) and have been discussed by I.Rozanku and collaborators (Chochosl. J. Phys., 686, 1949; 411, 1961; 101, 520, 1962). In the present paper vertical focusing and imaging of an extended source are discussed in addition to horizontal focusing and imaging of point and

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L 52011-65

ACCESSION NR: AP5012058

line sources, and the equations are put into a form suitable for design computations. The effect of the fringe field is not treated. A model has been constructed and its fringe fields measured; these measurements will be employed to calculate the effect of the fringe fields on ion beam focusing. Orig. art. has: 8-1 formulas and 4 figures.

ASSOCIATION: None

SUBMITTED: 20Jul64

ENCL: 000

SUB CODE: NP, EM

MR REF Sov: 002

OTHER: 003

Card 2/2 *llc*

L 45920-66 EWT(1) IJP(c) AT

ACC NR: AF6028605

SOURCE CODE: UR/0057/66/036/008/1351/1356

AUTHOR: Malov, A. F.; Fedoseyev, Ye. P.73  
B

ORG: none

TITLE: Influence of the fringe field of a plane electrostatic capacitor on the focusing of charged particles

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 38, no. 8, 1968, 1351-1356

TOPIC TAGS: electron optics, electrostatic field, aberration, electric capacitor,  
CHARGED PARTICLEABSTRACT: The authors discuss the focusing of charged particles in the x-y plane of a rectangular Cartesian coordinate system  $x, y, z$  by the electrostatic field of two charged plates filling the half-planes  $y = \pm h$ ,  $x = 0$ . The field obtained by the conjugate function (complex transformation) method is expanded about the x-axis in powers of  $y$ , terms of higher order than  $y^2$  are neglected, and the differential equation of the trajectory is derived. The trajectory equation was solved by successive approximations for arbitrary initial conditions in the plane  $x = -3.6h/y$  and the results are presented in the form of equations suitable for application to specific problems. Equations are given for the focal length of the fringe field, the lateral displacement of the focus, and the angular aberration. These quantities are calculated for a specific numerical case to illustrate the use of the equations. The

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ACC NR: AP6028605

equations can also be employed to calculate the effect of the fringe field of a cylindrical capacitor of the type frequently used in mass spectrometers and the like, provided the radius of the cylindrical capacitor is large compared with the distance between its plates. Orig. art. has: 30 formulas and 1 figure.

SUB CODE: 20 SUBM DATE: 03Jul65 ORIG. REF: 003 OTH REF: 003

Card 2/2 mjs

21 (1)

AUTHORS: Kirillov, P. L., Kuznetsov, V. A., Sov/89-7-1-3/26  
Turchin, N. M., Fedoseyev, Yu. M.

TITLE: Some Designs and the Operation of Pumps for Sodium and Alloys of Sodium With Potassium (Nekotoryye konstruktsii i ekspluatatsiya nasosov dlya natriya i splavov natriya s kaliyem)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 1, pp 11 - 17 (USSR)

ABSTRACT: The following pumps are described: 1. A centrifugal pump which is able to lift the liquid 23 m at 990 rpm and 55 m at 1450 rpm. In the former case, the pump conveys 10 m<sup>3</sup>/h. The greatest difficulty is caused by the correct selection of the material for ball bearings and sealing the rotating axis towards the exterior. The following material is recommended for the pump, a sectional drawing of which is given: For the hub: steel RF-1 and for the bearing box: beryllium bronze BrB2. The space between hub and bearing box amounted to 0.2 - 0.25 mm in a cold state. All other parts of the pump are made from steel of the type 1Kh18N9T. The pump is driven by an asynchronous electric motor. After 1500 hours of operation with a sodium-potassium alloy at temperatures of 200 - 400°C, the ball bearings were already used up. The greatest disadvantage of these pumps is

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Some Designs and the Operation of Pumps for Sodium and Alloys of Sodium With Potassium 30V/89-7-1-3/26

the fact that e.g. the ball bearings are difficult to exchange, and that it is difficult to take off the sealing cylinder. The pump was developed under the supervision of G. V. Skladnev and V. D. Roastovtsev. 2. Centrifugal pump with beryllium bronze ball bearings and an ordinary electromotor. This pump, a sectional drawing of which is given, is distinguished by the fact that the electric motor is completely enclosed and is water-cooled. A noble gas circulates within the pump. Also in this case the question of ball bearings is of decisive importance; after numerous experiments, the materials were selected, which were used for the first-described pump. The pump was tested for 2000 hours with a sodium-potassium alloy, and 7000 hours with sodium alone, at a temperature of 200°C. Besides the ball-bearing problem, a second difficulty arises, viz. the fact that during operation sodium vapors penetrate into the casing of the electric motor, which destroy the insulation of the motor coil by the formation of hydroxide. The pump described was developed under the supervision of M. N. Ivanovskiy. 3. Centrifugal pump with a ball-bearing made from "frozen" sodium. The pump shown in form of a sectional drawing conveys about 25 m<sup>3</sup>

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Some Designs and the Operation of Pumps for Sodium and Alloys of Sodium With Potassium

SOV/89-7-1-3/26

of liquid per hour 100 m high (2960 rpm). The power developed by the electromotor is 14 HP. The finish of the ball bearing, which, at the same time, seals the rotating shaft towards the outside, is shown separately in form of a sectional view. This bearing may be cooled by means of water. The sodium loss amounts to 1 - 2 g/24 hours. The pumps operate 2000 hours at 400 - 500°C, and remain in operation. The construction of these pumps is by V. I. Orlov. 4. Conductive electromagnetic single-phase pump for alternating current. By means of this pump it is possible to convey 4 m<sup>3</sup> of metal per hour, in which case a resistance of 2 kg/cm<sup>2</sup> may be overcome. The brands of wire necessary for the coils are listed separately. This type of pump should be used only if small quantities are to be conveyed. The pump, which is shown by a figure, was constructed under the supervision of N. M. Turchin. 5. Electromagnetic induction pump. This pump consists of two parallel inductors between which there is a channel, through which the liquid metal is able to flow. The indentations of the inductors contain an 8-pole three-phase winding, which may be cooled by means of copper tubes, through

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Some Designs and the Operation of Pumps for Sodium and Alloys of Sodium With Potassium SOV/89-7-1-3/26

which water flows. The width of the channel is 150 mm, and its height in the case of one pump is 6.1 and in the case of the other 8.7 mm. In the interior of the channel copper elements are located at the same height as the ends of the inductors, which are the short-circuit rings for the rotor of the asynchronous motor. The pumps have been in operation for a long time at temperatures of 200 - 250°C (conveying output 30 m<sup>3</sup>/h). I. A. Tyutin distinguished himself particularly in the course of the construction of this type of pump. There are 7 figures and 7 references, 3 of which are Soviet.

SUBMITTED: February 10, 1959

Card 4/4

FEDOSEYEV, A. A.

"Recent Developments in Bee Culture," Dost. sel'skhoz., No.7, 1952

ENDOSEYeva, A.O.

Experience in holding interdistrict conferences of midwives and gynecologists. Zdrav. Turk. 2 no.4:6-8 Jl-Ag '58. (MIRA 12:6)

1. Glavnnyy vrach Chardzhouskogo oblastnogo rodil'nogo doma.  
(CHARDZHOU PROVINCE—OBSTETRICS)

FEDOSEYEVA, A. I.

"Albedo of the System Earth-- Atmosphere and its Distribution Over the  
Terrestrial Globe"  
Tr. Gl. Geofiz. Observatorii, No 41, 133-143, 1953

The author presents (in the form of tables and charts) the distribution of  
computed values of the albedo of the earth-atmosphere system over the sur-  
face of the terrestrial globe for January, February, July and August, and  
also the mean yearly values. The general values found for the albedo of  
the earth as a planet turned out to equal 41%. In the computations, she  
took into consideration the albedo of the underlying surface, clouds, re-  
flection, etc. (RZhGeol, No 3, 1954)

SO: W-31187, 8 Mar 65

FEDOSEYEVA, A. I.

Dynamics of weed infestation of crops under irrigation as judged  
from experiments on the "Svobodnyi Mai" Collective Farm, Gremyach'-  
ye District, Voronezh Province. Trudy VGU 56 no.13'55-91-159.  
(MIRAL3:8)

(Gremyach'ye District--Weeds)  
(Irrigation farming)

Production of ketene and acetylation of some esters with ketene. S. S. Narozhkin and A. I. Fedorenko. Sintez Dushchistyykh Veshchestv, Sbornik Sistem-1959, 100-104; Khim. Referat. Zhur. 1960, No. 4, 116.—By catalytic splitting of acetone over  $\text{CeO}_2$  85% of ketene was obtained (calcd. on the basis of decomposed acetone). The following primary alcs. were acetylated with ketene: phenylmethylic alc., benzyl alc., geraniol. The secondary alcs. used were ethylphenylcarbinol, cyclohexanol. The tertiary alc. used was isobutanol. The reaction ability of alcs. with respect to ketene increases from the tertiary to the secondary and, finally, to the primary alcs. W. R. Head, J. R. K. Simon.

Macrocyclic esters. P. P. Shorpyra and E. K. Smol'yaninaeva. *Sintez Dushistov Veshchestv: Sbornik Statei* 1959, 178-81; *Khim. Referat. Zhur.* 1960, No. 4, 118-10. The following new products possessing a musk odor were obtained by depolymerization of the corresponding polymers: monomers of cyclic esters of ethylene glycol sebacate and diethylene glycol sebacate. The polymers of ethylene glycol and diethylene glycol sebacates were obtained by heating at atm. pressure with a simultaneous distn. of  $\text{BiOH}$  and di- $\text{Et}$  sebacate with ethylene glycol in the presence of small amounts of metallic Na. The monomers of the described esters were obtained by depolymerization of the corresponding polymers at  $275^\circ$  in the presence of  $\text{SnCl}_4$  or  $\text{MgCl}_2 \cdot \text{OH}_2\text{O}$ . A new method for the

depolymerization in the presence of  $H_3PO_4$  has been developed. By depolymerizing the polymer of ethylene glycol sebacate the corresponding monomer of the cyclic ester was obtained. Depolymerization of the polymer of diethylene glycol sebacate produced, instead of the expected monomer of the cyclic ester of diethylene glycol sebacate, 21% of the monomer of the cyclic ester of

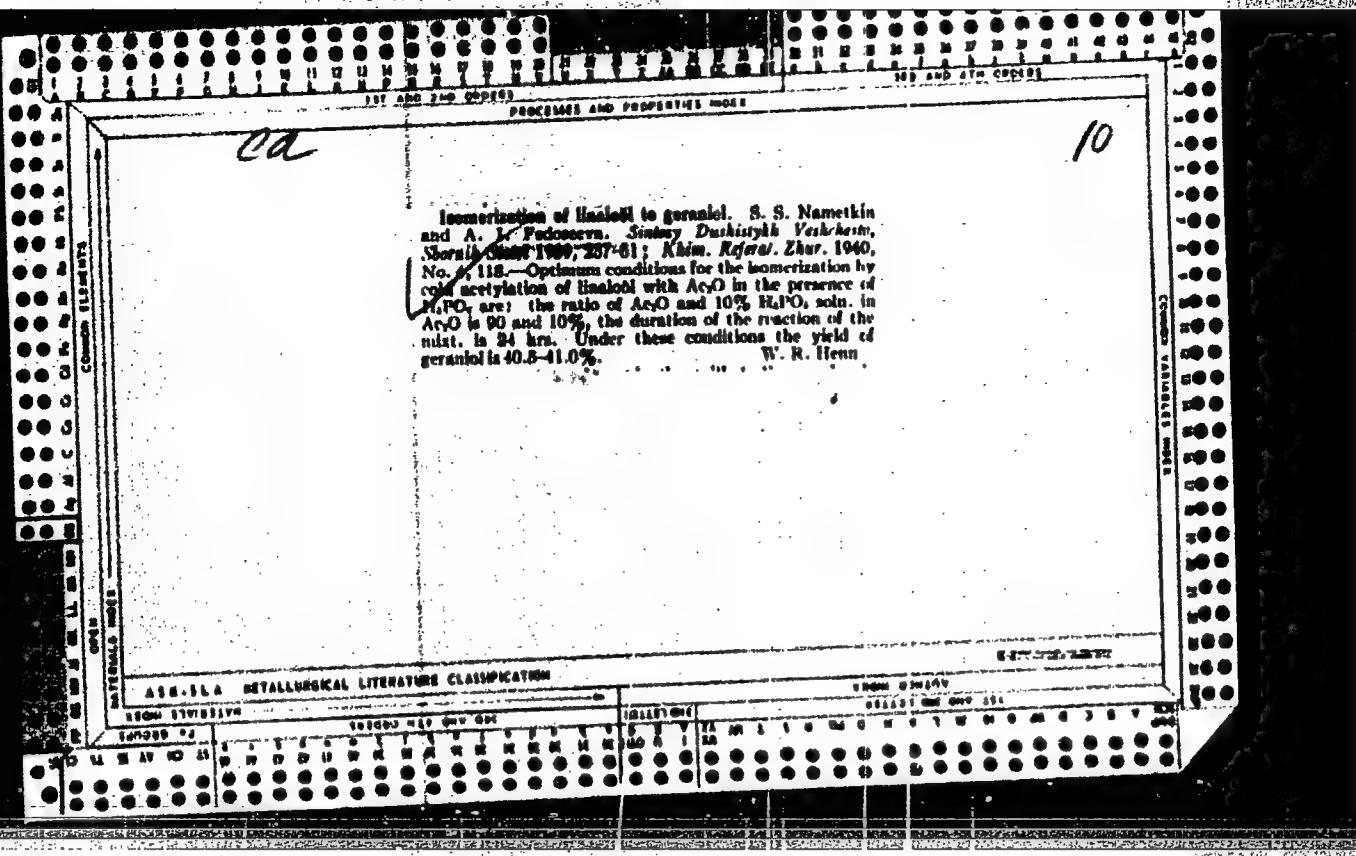
ethylene glycol sebacate (calcd. from the anal. of the polymer used for the reaction). Depolymerization of the polymer of 14-hydroxy-12-oxotetradecane carboxylic acid under analogous conditions for the purpose of obtaining the corresponding lactone produced 33% of hexylcyclpentenone (calcd. from the anal. of the polymer) instead of the expected lactone. The monomers of the cyclic esters possessed no odor after carefully repeated distillation. W. R. Henn.

## AMERICA METALLURGICAL LITERATURE CLASSIFICATION

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**APPROVED FOR RELEASE: Thursday, July 27, 2000**

CIA-RDP86-00513R00041272C



FEDOSEYEV, A. I., MILLER, B. V. and NEYMAN, M. B.

"A New Method for the Determination of Solubility with the Aid of Radioactive Indicators", Dokl AN SSSR, (Novaya Seriya), Vol. LXXV, No. 5, pp 719-721, 1950.

Inst Phys Chem, Acad Sci USSR

SO: W-17381, 16 Mar 1951

NEYMAN, M. B., TORSUEVA, Ye. S., FEDOSEEVA, A. I., SHANTAROVICH, P. S.

Hyposulfites

Investigation of the reaction in the formation of thiosulfate from  $H_2S$  and  $SO_2$  using radioactive sulfur. Dokl. AN SSSR 86 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 195<sup>6</sup>, Uncl. <sup>2</sup>

SEREBRENNIKOV, Innokentiy Mikhaylovich; FEDOSEYEVA, A.N., red.;  
MIRONOVA, A.M., tekhn. red.

[Forensic medical study of skin scars] Sudebnomeditsinskoe  
issledovanie rubtsov kozhi. Moskva, Medgiz, 1962. 125 p.  
(MIFI 15:4)

(CICATRICES) (MEDICAL JURISPRUDENCE)

CH FEDOSEYeva, A.S.

4

Irreversible electrode potentials in hydrofluoric acid  
potentials. M. M. Kurnikov and A. P. Fedoseyeva (Inst.  
Phys.-Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady  
Akad. Nauk S.S.R.* 72, 665-6 (1960).—Potentials  $E$  of  
28 metals were measured in 0.01, 0.1, and 1 N soln. of HF  
over 24 hrs. The initial  $E$  of metals of the 1st, 4th, and 5th  
groups (Cu, Ag, Au, Cr, Se, Mo, Tr, W, Fe, Ni, Pd, Pt)  
were pos., those of the other metals (Mg, Zn, Cd, Al, Ga,  
In, Ti, Si, Pb, Nb, Sn, Bi, Mn) were neg. relative to the H<sub>2</sub>  
electrode. The initial and final  $E$  of Au, Cu, In, and Pd,  
were neg., and  $E$  of Mg, Al, Si, Cr, Mn, Fe, and Ni, were  
pos. relative to the region of reversible potentials. For the

other metals,  $E$  was close to the equil. potential. Marked  
changes of  $E$  with time were observed with Au, Mg,  
Al, Si, Sn, Mn, Fe, Pd, Pt, and the metals of the 5th group.  
The concn. of HF showed no significant effect on  $E$ .  
N. Tchern

BAGAYEVA, G.G.; BLYUMBERG, I.B.; FEDOSENKOVA, A.S.

Spray dyeing of matrices in the inbibition method of processing  
color films. Trudy LIKI no. 5:219-224 '59. (MIRA 13:12)

1. Kafedra obshchey fotografii i tekhnologii obrabotki plenki  
Leningradskogo instituta kinoinzhenerov.  
(Color photography--Printing processes)

SOV/2e-121-4-20/54

AUTHORS: Berlin, A. A., Stupen', L. V., Fedoseyeva, B. I.,  
Yanovskiy, D. M.

TITLE: An Investigation of the Initiated Copolymerization of Vinyl  
Chloride With Derivatives of the Methacryl Series (Issledo-  
vaniye privitoy sopolimerizatsii vinilklorida s proizvodnymi  
metakrilovogo ryada)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 4,  
pp. 644 - 647 (USSR)

ABSTRACT: If a monomer is polymerized in the presence of polymeric  
substances it is often subjected to the influence of the  
radicals of growing chains or of the initiator. In this  
connection it is possible that as a result of chain transfer  
active centers are formed on the macromolecules. These  
centers are able to initiate the polymerization of the  
monomer resulting in the formation of compounds of high  
molecular weight with a racemic or threedimensional structure.  
In case that the side ramifications are of different chemical  
nature than the main chain, inoculated copolymers form. They  
combine the properties of the polymers used for the reaction

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An Investigation of the Initiated Copolymerization  
of Vinyl Chloride With Derivatives of the Methacryl Series

SOV/20-121-4-20/54

(Refs 1-6). This paper gives experimental results on synthesis and investigation of the inoculated polymers which are formed by the polymerization of vinyl chloride in the latex of the copolymer of butyl methacrylate and methacrylic acid (henceforth both referred to as BMA). Further results are mentioned of those polymers forming by the polymerization of a butyl methacrylate- and methacrylic acid mixture in the polyvinyl chloride (PVCh) latex. As table 1 shows the Khaggins constants are higher in the case of inoculated polymers than in the case of linear control polymers. This fact points to a ramification due to the formation of side chains. The mentioned constants of the PVCh- and BMA mixtures are between the constants of individual polymers and are close to the additive values. More than 60% of the monomer enters the reaction with the polymer (coefficient f). Furthermore the polymer solutions were turbidimetrically titrated in dioxane or in a mixture of dimethyl formamide with acetone. Figure 1 shows that a separate precipitation takes place when a mixture of polymers is titrated, whereas the curve of precipitation of polymerizate sample of vinylchloride

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An Investigation of the Initiated Copolymerization SOV/20-121-4-20/54  
of Vinyl Chloride With Derivatives of the Methacryl Series

in the BMA latex refers to the existence of an inoculated copolymer. Table 2 shows that the increase of the amount of vinylchloride in the mixture of components elevates the yield-(utilization)coefficient  $f$ . The addition of a regulator ( $CCl_4$ ,  $CH_3$ ) abruptly reduces the yield of the inoculated copolymer in consequence of the inactivation of a part of the macroradicals. At the end thermochemical properties and further details of production are mentioned. There are 4 figures, 2 tables, and 8 references, 6 of which are Soviet.

PRESENTED: April 3, 1958, by N.N.Semenov, Member, Academy of Sciences, USSR

SUBMITTED: April 1, 1958

Card 3/4

ZAKHAROV, L.N.; NESTEROV, V.S.; FEDOSEIEVA, E.O.

Effect of surface waves on the propagation of sound in a  
shallow fresh-water reservoir. Akust. zhur. 9 no.2:234-236  
'63. (MIRA 16:4)

1. Kafedra akustiki Moskovskogo gosudarstvennogo universiteta.  
(Underwater acoustics)

ZAKHAROV, L.N.; NESTEROV, V.S.; FEDOSEYEVA, E.G.

Slow fluctuations of an acoustic field under the action of  
a shallow freshwater basin. Akust. zhur. 10 no.3:293-300 '64.  
(MIRA 17:11)

1. Kafedra akustiki Moskovskogo gosudarstvennogo universiteta.

SOKHRINA, Raisa Fedorovna, nauchnyy sotrudnik; CHELPAKOVA, Ol'ga Mikhaylovna, kand.geogr.nauk; SHAROVA, Valeriya Yakovlevna, kand.geogr.nauk. Prinimali uchastiye: RUBINSHTEYN, Ye.S., prof.; DROZDOV, O.A., prof., doktor geograf.nauk, red.; PRIK, Z.M.; PISAREVA, G.P., nauchnyy sotrudnik; GALINA, M.B.; KOSENKOVA, Z.D.; TIKHOMIROVA, N.A.; FEDOSENKOVA, G.N.; POKROVSKAYA, T.V., kand.geograf.nauk, red.; PISAREVSKAYA, V.D., red.; VOLKOV, N.V., tekhn.red.

[Air pressure, air temperature and atmospheric precipitation in the Northern Hemisphere] Davlenie vozdukha, temperatura vozdukha i atmosfernye osadki severnogo polushariia. Pod red. O.A. Droxdova i T.V. Pokrovskoi. Leningrad, Gidrometeor.izd-vo, 1959. 473 p. [\_\_\_\_Atlas of charts] Atlas kart. (MIRA 13:4) (Meteorology--Charts, diagrams, etc.)

AUTHORS: Zil'berman, Ye. N., Fedoseyova, G. Z. 30V/64-58-6-13/15

TITLE: On the Separation of Adiponitrile Obtained From Products of the Reaction Between Adipic Acid and Ammonia (O vydelenii adiponitriila iz produktov vzaimodeystviya adipinovoy kisloty i ammiaka)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 6, pp 377-379 (USSR)

ABSTRACT: One of the methods used for the industrial production of adiponitrile is the synthesis obtained from adipic acid and ammonia producing a heterogeneous mixture (Ref 1). Adiponitrile obtained in such a way is mostly dissolved in water. It is stated that the aromatic carbohydrates are a good extracting agent for adiponitrile since they do not react with it and have a relatively high steam pressure and specific weight. In order to study these possibilities of extraction analyses were, in the present case, carried out with the systems water-adiponitrile-benzene, water-adiponitrile-toluene, and water-adiponitrile-(NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>. Since good results can also be obtained by salting out the aqueous adiponitrile solutions, the analyses were carried out in the latter system. In a few cases the water content of the oil layer was determined by means of

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On the Separation of Adiponitrile Obtained From Products of the Reaction  
Between Adipic Acid and Ammonia

the Fischer reagent (Ref 10). The comparison of the extractability of some carbohydrates is illustrated graphically on the basis of the data of the distribution of adiponitrile between water and the solvent. It appears from this that the introduction of a methyl-substitute into the benzene-ring reduces the concentration ratio of adiponitrile between the oil and the aqueous layer. The extractability decreases in the following order: benzene, toluene, ortho-xylene. On the basis of the observations made it is assumed that an extraction in the presence of inorganic salts would be especially effective. There are 5 figures, 1 table, and 10 references, 4 of which are Soviet.

Card 2/2

5(1)

AUTHORS: Shevlyakov, A. S., Etlis, V. S., SOV/20-122-6-34/49  
Minsker, K. S., Degtyareva, L. M., Fedoseyeva, G. T.,  
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TITLE: Preparation of Isotactic Polystyrene (Poluchenije  
izotakticheskogo polistirola)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6,  
pp 1076-1078 (USSR)

ABSTRACT: Inspite of several papers (Refs 1-3) the preparation method  
and the parameter of isotactic polystyrene are not described  
in publications. The present paper tries to determine the  
conditions of stereospecific styrene polymerization which  
are suited for technological development. The styrene  
polymerization was produced with a catalytic system of  
triethyl aluminium titanium trichloride in the medium of  
saturated hydrocarbons at 30-120° in a nitrogen atmosphere.  
A dependence of the polymerization velocity and the yield of  
isotactic fraction of the polymer on the concentration of  
 $Al(C_2H_5)_3$  in the solvent (benzine) was found (Table 1).  
Figure 1 shows the dependence of the yield of the isotactic  
fraction (fraction III.), of the per cent content of the

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amorphous fraction in the polymer (1st fraction), of the characteristic viscosity (in cyclohexanone at 20°) and of the density ( $\rho$ ) on the quantity K. Figure 2 shows the yield of the isotactic and amorphous fraction in the polymer in dependence on temperature. An increase in the entire yield of polystyrene takes place only in consequence of an increase in the yield of the amorphous fraction. When the relation  $C_8 H_8 : TiCl_3$  was raised from 10 to 15, the content of the amorphous fraction in the polymer increased by 1.5-2.0 times. The yield of the isotactic fraction per  $TiCl_3$ -unit practically did not change. The results of typical tests are collected in table 2. Obviously the formation of the amorphous product is not connected with surface effects and takes place in a homogeneous solution according to the ion mechanism. The constant yield of an isotactic product, however, must be explained by the constant size of the active surface of the catalyst. Polystyrene can be prepared according to the system described, depending on the conditions of the procedure and the polymerization method either as a completely crystalline substance (98.5-100 %) or with a considerable content of the

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amorphous fraction. Figure 3 shows typical thermodynamic curves (plotted with Kargin's scales) of an industrial sample, of the polymer prepared according to the catalytic system mentioned above, and of its individual fractions. Figure 4 gives the radiographs of both fractions. Table 3 shows some physico-mechanic and electric properties of the polystyrene under consideration. V. A. Kargin, Member, Academy of Sciences, USSR assisted the author in his work. There are 3 figures, 3 tables, and 3 references.

PRESENTED: June 27, 1958, by V. A. Kargin, Academician

SUBMITTED: June 26, 1958

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RAZUVAYEV, G.A.; MINSKER, K.S.; FEDOSEYEV, G.T.; SAVEL'YEV, L.A.

Effect of amines on the stereospecific polymerization of propylene.  
Vysokom. soed. 1 no.11:1691-1695 N '59. (MIRA 13:5)  
(Propene) (Amines)

EDCSEYEVA, G.

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of the molar ratio of benzoyl chloride to TiCl<sub>3</sub> above 1:1 as a consequence of the former of TiCl<sub>3</sub> and an expert initial temperature of 100°C. leads to increased formation of an amorphous fraction, but 1:1 does not change the yield of isotactic fraction (Table II). Temperature of both reactions of from 100 to 150°C. exerted marked influence on the yield of amorphous fraction, but not on that of the isotactic fraction. The following polymerization conditions are recommended: concentration of an initiator in the solution: 1.0%; the molar ratio between benzoyl chloride and TiCl<sub>3</sub>: 1:1; a ratio between styrene and TiCl<sub>3</sub>: 10:1; reaction temperature 130-150°C., duration of reaction 2-3 hours. The properties of polyvinyl acetate in the above-mentioned conditions are fully discussed and the advantages of the crystallization process (Table II) are pointed out. There are 3 figures, 7 tables, and 20 references; 6 Soviet, 5 U.S., 2 British, 2 German, 4 Italian, and 1 Japanese.

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NOTE: In this paper under review, details on the stereopropylene polymerized systems are discussed and experimental results are given. In connection with previous work (Ref. 1) on the production of isotactic polypropylene, the use of a catalytic system consisting of triethyl aluminium and TiCl<sub>3</sub> in the presence of HCl, having a high stereoselectivity, was used. The experiments established that the yield of the polymerization and the molecular weight of the polymer obtained are the functions of the reaction time, temperature, and concentration of propylene, and of the concentration of TiCl<sub>3</sub> and HCl. The results of the polymerization of propylene in the presence of TiCl<sub>3</sub> and HCl are presented, and the effect of the reaction conditions on the molecular weight of the polymer is discussed.

**ACTIONS:** Reinhard, A. S.; Bills, V. G.; Winkler, G. S.; Perrenoud, G.; Wolff, G.; Wolff, H. **TITLE:** Stereospecific Polymerization of Styrene

8/26/10/20/2013/201/20/2009

**APPROVED FOR RELEASE: Thursday, July 27, 2000**

CIA-RDP86-00513R00041272C

SHEVLYAKOV, A. S.; BTLIS, V. S.; MINSKER, K. S.; DEGTYAREVA, L. N.;  
YUDOSTYNOVA, G. T.; KUCHERENKO, M. M.

Stereospecific polymerization of styrene. Khim.prom. no.5:362-  
367 J1-Ag '60.  
(Styrene) (Polymerization) (MIRA 13:9)

81583

S/190/60/002/05/00/014  
B020/B0665.3931  
AUTHORS:Razuvayev, G. A., Minsker, K. S., Fedoseyev, G. T.,  
Bykhovskiy, V. K.

TITLE:

Effect of Polar Additions on the Stereospecific  
Polymerization of PropylenePERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 3,  
pp. 404-407

TEXT: The authors have recently shown that the addition of amines in the stereospecific polymerization and in the presence of a catalyst system (consisting of titanium chloride and triethyl aluminum) changes the degree of polymerization of polymers. The ratio of the fractions is considerably influenced. The effect of other types of nucleophilic compounds containing an unoccupied 3-p level of the central pair that may interact both with the unoccupied 3-p level of the central Al atom in triethyl aluminum and with the d-shell of  $TiCl_3$  is of special interest in this connection. It was presupposed that these compounds, like the amines

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Effect of Polar Additions on the  
Stereospecific Polymerization of Propylene

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S/190/60/007; 03/05/014  
B020/1066

(Ref. 1), exert an influence upon the ratio of the reaction of growth to the interruption of the chain. Representatives of the class of ethers (dioxane), sulfides (diphenyl sulfide), and of the heterocyclic compounds (pyridine, thianthrene) were selected. The results of experiments on the effect of these compounds on the stereospecific polymerization of propylene are given (Table). With an increasing ratio between addition and titanium chloride also the molecular weight of the polymer increases as much as on application of amines. The maximum molecular weight found in dioxane with a ratio of < 1 between addition and titanium chloride is to be explained by the presence of two electron donor atoms in its molecule. Dioxane and pyridine accelerated stereospecific polymerization, which had not been expected by the authors (Fig.). The authors outlined (Ref. 1) the possibility of the formation of complex compounds between  $TiCl_3$  and aniline, dimethyl aniline, and triethyl aniline in the presence or absence of triethyl aluminum. This may also be compared with the effect of the increasing molecular weight of the resultant polymer on polymerization of the Ziegler type and in the presence of ether additions. T. A. Domracheva

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Effect of Polar Additions on the  
Stereospecific Polymerization of Propylene

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S/190/60/002/55/0,/,4  
B020/B066

contributed to the experimental part. Mention is made of C. D. Nenitescu (Ref. 3), A. V. Topchiyev and co-workers (Refs. 4,5), V. Michovich and M. Mikhaylovich (Ref. 12), T. V. Talalayeva and K. A. Kocheshkov (Ref. 8). There are 1 figure, 1 table, and 19 references: 10 Soviet, 8 US, 2 German, and 1 Rumanian.

SUBMITTED: December 11, 1959

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8/190/62/004/010/006/010  
B101/B186

AUTHORS: Razuvayev, G. A., Minsker, K. S., Fedoseyeva, G. T.

TITLE: Heterogeneous catalytic polymerization of ethylene in the presence of  $TiCl_3 + Al + AlCl_3$  or  $TiCl_3 + (Al + HCl)$

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 10, 1962,  
1495-1502

TEXT: Polyethylene (PE) and ethylene were synthesized at  $60^{\circ}C$  and a pressure of 10 atm in different solvents to obtain more exact data on the polymerization of ethylene with a catalyst suggested by K. Fukui et al. (J. Polymer Sci., 37, 341, 1959; ibid., 37, 353, 1959). The system  $TiCl_3 + Al + AlCl_3$  was very active, whereas its components alone or paired did not form PE.  $TiCl_3 + Al$  which yields small amounts of PE, is an exception. For the first time, the activity of the catalyst was found to depend on the type of solvent (Fig. 1). The catalyst system is assumed to form a catalytically effective complex with the solvent, where  $AlCl_3$  acts

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Heterogeneous catalytic polymerization ...

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as activator of the Al surface and of  $TiCl_3$ , and forms complexes with aromatic hydrocarbons. Hence, the catalytic effect of the system  $TiCl_3 + (Al + HCl)$  was tested, with Al having been treated with anhydrous HCl in an aromatic or saturated hydrocarbon medium. Treatment of Al with HCl in benzene yielded a yellowish brown  $AlCl_3$  deposit which, without  $TiCl_3$ , was a highly active catalyst of alkylation. Benzene yielded considerable amounts of hexaethylene benzene. An addition of  $TiCl_3$  caused the formation of PE. The complex thus formed, excludes structures causing alkylation of aromatics. The effectiveness of the system  $TiCl_3 + (Al + HCl)$  depended on the contact time of the components before the reaction. After a contact time of 0.5 hrs, the ratio PE : hexaethyl benzene was 4 : 110, after 24 hrs 11 : 70, after 90 hrs 75 : 3, and after 120 hrs 350 : 0.  $TiCl_3 + (Al + HCl)$  was more active than  $TiCl_3 + Al + AlCl_3$ , its presence intensified the ethylene absorption. After an addition of  $TiCl_3$ , Al activated with HCl in n-heptane, did not yield PE which was only obtained

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B101/B186

Heterogeneous catalytic polymerization ...

when benzene was used for the activation, and the system was suspended in n-heptane. Both systems yielded PE with m.p. = 120 - 135°C and with physicomechanical properties consistent with those of PE produced with Ziegler catalysts. The active centers of polymerization are on the metal surface on which  $TiCl_3$  is deposited. Micro- and macroformations, fibrils, spherolites, etc were observed under the polarization microscope. There are 5 figures and 3 tables.

SUBMITTED: June 10, 1961

Fig. 1: Yield of PE versus time when different solvents are used.  
(1) Benzene; (2) chloro benzene; (3) toluene; (4) o-xylene; (5) cyclohexane;  
(6) p-dichloro benzene; (7) n-heptane.  
legend: (a) polymer yield; (b) time, hrs.

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L 13545-63 EWP(j)/EPF(c)/EMT(m)/BDS ASD Pt-4/Pr-4 RH/NW  
ACCESSION NR: AP3000689 8/01/90/63/005/105/0655/0658 66

AUTHOR: Minsker, K. S.; Fedoseyeva, G. T.; Razuvayev, G. A.

TITLE: The role of the hetero-component in stereospecific polymerization on  
Ziegler-Natta catalysts

SOURCE: Vyssokomolekulyarnye soyedineniya, v. 5, no. 5, 1963, 655-658

TOPIC TAGS: catalytic activity, hetero-component, stereospecific polymerization,  
activation of bonds, styrene, TiCl<sub>3</sub>, CrCl<sub>3</sub>, propylene, ethylene

ABSTRACT: The present work was carried out because of the scarcity of information  
on the catalytic performance of the alpha-modification of TiCl<sub>3</sub> and the purple  
and pink modification of CrCl<sub>3</sub> in initiating the polymerization of ethylene,  
propylene, and styrene. The polymerization of ethylene was conducted in metallic  
reactors, four liters in capacity, that of propylene and styrene in ampules. A  
nonstereospecific polymerization was obtained, accompanied by the formation of  
low-molecular reaction products, confirmed by an electronogram. The theory is  
advanced that activation of the double bond occurs on chemisorption of the monomer  
by the active heterogeneous catalyst centers. The doubling of the yield in the  
presence of benzene lends support to this theory. Orig. art. has: 1 table and 1  
figure.

Cord 1/2, Association: Scientific-Research Inst. of Chemistry, Gorkiy St. Un.

RAZUVAYEV, G.A.; MINSKER, K.S.; FEDOSEYEVA, G.T.; SHTARKHAN, B.P.

Heterogeneous catalytic polymerization of ethylene in the presence of  
the metal - metal chloride system. Vosokom.socd. 5 no.9:1371-1375 S  
'63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete.